

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

CHANG, Soon-Boo

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Seoul 137-070, Republic of Korea

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 11 MARCH 2005 (11.03.2005)

Applicant's or agent's file reference
NM-CHANG

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/003394

International filing date (day/month/year)

22 DECEMBER 2004 (22.12.2004)

Priority date(day/month/year)

27 DECEMBER 2003 (27.12.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 F03D 5/02

Applicant

JANG, Kil-Hun

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

SONG, Jay Wook

Telephone No. 82-42-481-5487



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003394

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

10/582795

AP3 Rec'd PCT/PTO 14 JUN 2005

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003394

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10	YES
	Claims	None	NO
Inventive step (IS)	Claims	2-10	YES
	Claims	1	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims	None	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 4,756,666

D2: WO 02/29248

D1 describes a power generating means wherein a closed loop track (3) is mounted on a number of posts (17) and a plurality of sail structures are installed on the track (3). The sail structures are connected to each other by a string (2) and driven along the track (3) by the wind force, which makes gear wheels (6,14) rotate to transmit power to a generator.

D2 discloses a variable surface sail which adjusts its surface area by an electric motor (19) depending on wind conditions.

D1 and D2 include most of the technical features of claim 1 except for two power generating means (100, 100') installed to have symmetrical structures. Thus, the subject matter of claim 1 is novel under PCT Article 33(1) and (2). As a consequence, the subject matter of the dependent claims 2 to 10 is also novel.

However, it would be obvious to a person skilled in the art to combine D1 and D2 without the exercise of inventive skill because they share a common approach to obtaining the wind energy through utilizing a sail structure.

There is a difference between claim 1 and the cited documents D1 and D2 in that the two power generating means of claim 1 are installed to have symmetrical structures. However, it does not require an inventive skill or a great effort for a person skilled in the art to add power generating means as described in claim 1. Therefore, the subject matter of claim 1 is not considered to involve an inventive step under PCT Article 33(3).

Claims 2 to 10 which are dependent on claim 1 limit the technical features of claim 1 or add some technical features to claim 1. Neither of said documents teach or fairly suggest the technical features of claims 2-10. Therefore, claims 2 to 10 meet the criteria set out in PCT Article 33(3),

PATENT COOPERATION TREATY

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INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference NM-CHANG	FOR FURTHER ACTION <div style="text-align: right;">see Form PCT/ISA/220 as well as, where applicable, item 5 below.</div>	
International application No. PCT/KR2004/003394	International filing date (<i>day/month/year</i>) 22 DECEMBER 2004 (22.12.2004)	(Earliest) Priority Date (<i>day/month/year</i>) 27 DECEMBER 2003 (27.12.2003)
Applicant JANG, Kil-Hun		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 3

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☒ because this figure better characterizes the invention.

- b. ☐ none of the figure is to be published with the abstract.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/KR2004/003394**A. CLASSIFICATION OF SUBJECT MATTER****IPC7 F03D 5/02**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7 F03D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KR, JP; IPC as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,756,666 A (Labrador, A. Gaudencio) 12 July 1988 See the Abstract and Figure 1-4	1
Y	WO 02/29248 A1 (Culjak, Tihomir) 11 April 2002 See the Abstract	1
A	US 4,859,146 A (Labrador, A. Gaudencio) 22 August 1989 See the Abstract and Figure 1	1

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

09 MARCH 2005 (09.03.2005)

Date of mailing of the international search report

11 MARCH 2005 (11.03.2005)

Name and mailing address of the ISA/KR

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